

Table B-5
Analytical Results of Umatilla Army Depot Borrow Site Material Samples

	US-001 9/12/01	US-002 9/12/01	US-003 9/13/01	US-004 9/13/01	US-304 9/13/01 Duplicate	US-005 9/14/01
SVOCs (mg/kg)						
1,2,4-Trichlorobenzene	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
1,2-Dichlorobenzene	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
1,3-Dichlorobenzene	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
1,4-Dichlorobenzene	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
2,4,5-Trichlorophenol	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
2,4,6-Trichlorophenol	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
2,4-Dichlorophenol	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
2,4-Dimethylphenol	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
2,4-Dinitrophenol	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
2,4-Dinitrotoluene	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
2,6-Dinitrotoluene	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
2-Chloronaphthalene	1.15 U	1.14 U	1.31 U	1.27 U	1.32 U	1.22 U
2-Chlorophenol	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
2-Methylnaphthalene	3.11	2.27	2.1 U	6.1	6.2	3.06
2-Methylphenol	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
2-Nitroaniline	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
2-Nitrophenol	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
3,3'-Dichlorobenzidine	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
3- & 4-Methylphenol	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
3-Nitroaniline	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
4,6-Dinitro-2-methylphenol	28.8 U	28.4 U	32.8 U	31.8 U	33 U	30.6 U
4-Bromophenylphenylether	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
4-Chloro-3-methylphenol	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
4-Chloroaniline	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
4-Chlorophenylphenylether	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
4-Nitroaniline	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
4-Nitrophenol	11.5 U	11.4 U	13.1 UJ	12.7 U	13.2 U	12.2 U
Acenaphthene	1.15 U	1.14 U	1.31 U	1.27 U	1.32 U	1.22 U
Acenaphthylene	1.15 U	1.14 U	1.31 U	1.27 U	1.32 U	1.22 U
Acetophenone	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
Anthracene	1.15 U	1.14 U	1.31 U	1.27 U	1.32 U	1.22 U
Atrazine	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
Benzaldehyde	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
Benzo(a)anthracene	2.3 U	2.27 U	2.63 U	2.54 U	2.64 U	2.45 U
Benzo(a)pyrene	1.15 U	1.14 U	1.31 U	1.27 U	1.32 U	1.22 U
Benzo(b)fluoranthene	1.15 U	1.14 U	1.31 U	2.16	1.32 U	1.22 U
Benzo(g,h,i)perylene	1.15 U	1.14 U	1.31 U	1.27 U	1.32 U	1.22 U
Benzo(k)fluoranthene	1.15 U	1.14 U	1.31 U	1.27 U	1.32 U	1.22 U
Benzoic Acid	28.8 U	28.4 U	32.8 U	31.8 U	33 U	30.6 U
Benzyl Alcohol	15.7	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
Biphenyl	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U

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SVOCs (mg/kg) (continued)						
bis(2-Chloroethoxy)methane	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
bis(2-Chloroethyl)ether	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
bis(2-Chloroisopropyl)ether	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
bis(2-Ethylhexyl)phthalate	11.5 U	53.3 U	32.8 U	31.8 U	40.4 U	30.6 U
Butylbenzylphthalate	77.8 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
Caprolactum	115 UR	114 UR	131 UR	127 U	132 UR	122 UR
Chrysene	2.3 U	2.27 U	2.63 U	2.54 U	2.64 U	2.45 U
Di-n-butylphthalate	57.6 UJ	56.8 U	65.7 U	63.5 U	66 U	61.2 U
Di-n-octylphthalate	9.44 J	3.41 J	13.1 U	12.7 U	13.2 U	12.2 U
Dibenzo(a,h)anthracene	1.15 U	1.14 U	1.31 U	1.27 U	1.32 U	1.22 U
Dibenzofuran	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
Diethylphthalate	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
Dimethylphthalate	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
Fluoranthene	2.99	1.14 U	1.31 U	2.16	1.32 U	1.22 U
Fluorene	1.15 U	1.14 U	1.31 U	1.27 U	1.32 U	1.22 U
Hexachlorobenzene	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
Hexachlorobutadiene	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
Hexachlorocyclopentadiene	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
Hexachloroethane	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
Indeno(1,2,3-cd)pyrene	1.15 U	1.14 U	1.31 U	1.27 U	1.32 U	1.22 U
Isophorone	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
N-Nitrosodiphenylamine	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
N-nitroso-di-n-propylamine	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
Naphthalene	2.07 U	1.14 U	1.31 U	6.23 U	4.36 U	1.71 U
Nitrobenzene	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
Pentachlorophenol	11.5 U	11.4 U	13.1 UJ	12.7 U	13.2 U	12.2 U
Phenanthrene	2.88 U	1.14 U	1.31 U	2.29	1.98 U	1.22 U
Phenol	11.5 U	11.4 U	13.1 U	12.7 U	13.2 U	12.2 U
Pyrene	2.07	1.14 U	1.84	2.67	1.32 U	1.22 U

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PCB/Pesticides (mg/kg)						
4,4'-DDD	1.95 U	1.94 U	1.93 U	1.93 U	1.96 U	1.91 U
4,4'-DDE	1.95 U	1.94 U	1.93 U	1.93 U	1.96 U	1.91 U
4,4'-DDT	1.95 U	1.94 U	1.93 U	1.93 U	1.96 U	1.91 U
Aldrin	0.974 U	0.971 U	0.964 U	0.965 U	0.979 U	0.955 U
Aroclor 1016	9.74 U	9.71 U	9.64 U	9.65 U	9.79 U	9.55 U
Aroclor 1221	19.5 U	19.4 U	19.3 U	19.5 U	19.6 U	19.1 U
Aroclor 1232	9.74 U	9.71 U	9.64 U	9.65 U	9.79 U	9.55 U
Aroclor 1242	9.74 U	9.71 U	9.64 U	9.65 U	9.79 U	9.55 U
Aroclor 1248	9.74 U	9.71 U	9.64 U	9.65 U	9.79 U	9.55 U
Aroclor 1254	9.74 U	9.71 U	9.64 U	9.65 U	9.79 U	9.55 U
Aroclor 1260	9.74 U	9.71 U	9.64 U	9.65 U	9.79 U	9.55 U
Chlordane (technical)	9.74 U	9.71 U	9.64 U	9.65 U	9.79 U	9.55 U
Dieldrin	1.95 U	1.94 U	1.93 U	1.93 U	1.96 U	1.91 U
Endosulfan I	0.974 U	0.971 U	0.964 U	0.965 U	0.979 U	0.955 U
Endosulfan II	1.95 U	1.94 U	1.93 U	1.93 U	1.96 U	1.91 U
Endosulfan sulfate	1.95 U	1.94 U	1.93 U	1.93 U	1.96 U	1.91 U
Endrin	1.95 U	1.94 U	1.93 U	1.93 U	1.96 U	1.91 U
Endrin aldehyde	1.95 U	1.94 U	1.93 U	1.93 U	1.96 U	1.91 U
Endrin ketone	1.95 U	1.94 U	1.93 U	1.93 U	1.96 U	1.91 U
Heptachlor	0.974 U	0.971 U	0.964 U	0.965 U	0.979 U	0.955 U
Heptachlor epoxide	0.974 U	0.971 U	0.964 U	0.965 U	0.979 U	0.955 U
Methoxychlor	9.74 U	9.71 U	9.64 U	9.65 U	9.79 U	9.55 U
Toxaphene	97.4 U	97.1 U	96.4 U	96.5 U	97.9 U	95.5 U
alpha-BHC	0.974 U	0.971 U	0.964 U	0.965 U	0.979 U	0.955 U
alpha-Chlordane	0.974 U	0.971 U	0.964 U	0.965 U	0.979 U	0.955 U
beta-BHC	0.974 U	0.971 U	0.964 U	0.965 U	0.979 U	0.955 U
delta-BHC	0.974 U	0.971 U	0.964 U	0.965 U	0.979 U	0.955 U
gamma-BHC (Lindane)	0.974 U	0.971 U	0.964 U	0.965 U	0.979 U	0.955 U
gamma-Chlordane	0.974 U	0.971 U	0.964 U	0.965 U	0.979 U	0.955 U

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Metals (mg/kg)						
Aluminum	3610	4090	4390	3660	3430	2960
Antimony	0.582 J	9.58 U	9.77 U	8.93 U	9.88 U	1.55 J
Arsenic	1.45 J	2.4 J	3.05 J	1.38 J	1.32 J	1.11 J
Barium	76.8	79.9	84	79	78.6	65.9
Beryllium	0.36 U	0.176 J	0.162 J	0.182 J	3.95 U	0.354 U
Cadmium	0.707	0.661	0.728	0.725	0.746	0.659
Calcium	7900	13900	17900	5430	5640	7930
Chromium	4.38 U	6.12 U	5.84 U	5.07 U	4.82 U	3.91 U
Cobalt	8.9	8.03	8.04	8.27	7.86	7.43
Copper	12.7	10.1	11.2	10.4	11.4	10.7
Iron	17800	17000	16700	16400	16100	17200
Lead	4 U	4.45 U	5.02 U	4.23 U	3.7 U	4.42 U
Magnesium	3770	3870	4010	3030	2870	2850
Manganese	461	337	354	353	324	272
Mercury	0.0189 U	0.0173 U	0.0176 U	0.0128 J	0.0163 U	0.015 U
Nickel	7.19	7.42	7.39	6.51	6.38	5.27
Potassium	827	1060	1130	1010	879	560
Selenium	8.99 U	1.29 J	1.43 J	8.93 U	9.88 U	1.15 J
Silver	1.97	0.143	0.124	0.123	0.138	0.107
Sodium	214 U	192 U	212 U	179 U	198 U	177 UJ
Strontium	46.5	48.5	49.8	42.3	40.9	42.6
Thallium	3.6 U	3.83 U	3.91 U	3.57 U	3.95 U	3.54 U
Uranium	0.331	0.391	0.421	0.298	0.312	0.372
Vanadium	35.1	37.8	36.4	37.9	35.3	34.7
Zinc	33	32.1	30.8	30.5	27.9	27.1

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Explosives (mg/kg)						
1,3,5-Trinitrobenzene	0.0428 U	0.0427 U	0.0425 U	0.0443 U	0.0434 U	0.0435 U
1,3-Dinitrobenzene	0.0428 U	0.0427 U	0.0425 U	0.0443 U	0.0434 U	0.0435 U
2,4,6-Trinitrotoluene	0.0428 U	0.0427 U	0.0425 U	0.0443 U	0.0434 U	0.0435 U
2,4-Dinitrotoluene	0.0428 U	0.0427 U	0.0425 U	0.0443 U	0.0434 U	0.0435 U
2,6-Dinitrotoluene	0.0428 U	0.0427 U	0.0425 U	0.0443 U	0.0434 U	0.0435 U
2-Aminodinitrotoluene	0.0428 U	0.0427 U	0.0425 U	0.0443 U	0.0434 U	0.0435 U
2-Nitrotoluene	0.0856 U	0.0855 U	0.085 U	0.0885 U	0.0868 U	0.087 U
3-Nitrotoluene	0.0856 U	0.0855 U	0.085 U	0.0885 U	0.0868 U	0.087 U
4-Aminodinitrotoluene	0.0428 U	0.0427 U	0.0425 U	0.0443 U	0.0434 U	0.0435 U
4-Nitrotoluene	0.0856 U	0.0855 U	0.085 U	0.0885 U	0.0868 U	0.087 U
HMX	0.0428 U	0.0427 U	0.0425 U	0.0443 U	0.0434 U	0.0435 U
Nitrobenzene	0.0428 U	0.0427 U	0.0425 U	0.0443 U	0.0434 U	0.0435 U
RDX	0.0428 U	0.0427 U	0.0425 U	0.0443 U	0.0434 U	0.0435 U
Tetryl	0.0428 U	0.0427 U	0.0425 U	0.0443 U	0.0434 U	0.0435 U
Chemical Agent Breakdown Products (mg/kg)						
EA-2192	0.01 U	0.01 U				
bis-(diisopropylaminoethane)disulfide	0.33 U	0.33 U				
bis-diisopropylaminosulfide	0.33 U	0.33 U				
diisopropyl methylphosphonate	0.128 U	0.127 U				
diisopropylaminoethane thiol	0.33 U	0.33 U				
dithiane	0.02 U	0.02 U				
ethylmethyl-phosphonic acid	0.128 U	0.127 U				
isopropyl methylphosphonic acid	0.507 U	0.508 U	0.509 U	0.506 U	0.508 U	0.506 U
methyl phosphonic acid	0.406 U	0.411 U	0.409 U	0.407 U	0.407 U	0.407 U
oxathiane	0.08 U	0.079 U	0.078 U	0.079 U	0.079 U	0.078 U
thiodiglycol	0.13 U	0.129 U				
other isopropylaminoethane compounds	0.33 U	0.33 U				

Notes:

D - value is derived from a dilution

J - value estimated

mg/kg - milligrams per kilogram

µg/kg - micrograms per kilogram

U - not detected above respective reporting limit

R- result rejected

Detections are bolded